

IN THE SPECIFICATION

Please amend the Specification so that the descriptive matter in the section entitled "BRIEF SUMMARY OF THE INVENTION" is in harmony with the claims as currently presented and amended (MPEP 1302.01). To effect this amendment, please delete paragraphs [0014] to [0028] of the original specification as indicated below and replace with the new paragraphs that follow.

[0014] ~~Embodiments of the invention include an apparatus and a method for regulating a driver driving a gas compressor having a gas inlet and a gas outlet, the driver having a maximum power. There are several embodiments and variations thereof of the apparatus and the method.~~

[0015] ~~A first embodiment of the apparatus for regulating a driver driving a gas compressor having a gas inlet and a gas outlet, the driver having a maximum power, includes two elements. The first element is a recycle pressure relief device in fluid communication with the gas outlet, the recycle pressure relief device adapted to receive a stream of a compressed gas having a discharge pressure from the gas outlet. The second element is a conduit in fluid communication with the gas inlet, whereby the gas inlet receives at least a portion of the stream of the compressed gas transmitted to the conduit from the recycle pressure relief device when the discharge pressure reaches a designated pressure.~~

[0016] ~~There are several variations of the first embodiment of the apparatus. In one variation, the driver is a gas turbine and at least a portion of the compressed gas is a refrigerant. In another variation, the driver is a single shaft gas turbine and the compressor is a refrigerant compressor. In yet another variation, the recycle pressure relief device is a valve.~~

[0017] ~~A second embodiment of the apparatus is similar to the first embodiment but includes a vessel in fluid communication with the conduit and the gas inlet. A third embodiment of the apparatus is similar to the first embodiment but includes at least one additional recycle pressure relief device in fluid communication with the gas outlet, the additional recycle pressure relief device adapted to receive an additional stream of the compressed gas from the gas outlet. In a variation of the third embodiment, the at least a portion of the stream of the compressed gas is transmitted~~

~~to the conduit from the recycle pressure relief device when the driver reaches a first designated percentage of the maximum power, and at least a portion of the additional stream of the compressed gas is transmitted to the conduit from the additional recycle pressure relief device when the driver reaches a second designated percentage of the maximum power.~~

[0018] In a fourth embodiment, an apparatus for regulating at least one driver driving at least one multi-stage gas compressor having a plurality of stages, a gas inlet for each stage, and a gas outlet for each stage, includes two elements. The first element is at least one recycle pressure relief device in fluid communication with each gas outlet, the recycle pressure relief device adapted to receive at least one stream of a compressed gas having a discharge pressure from the gas outlet. The second element is at least one conduit in fluid communication with at least one gas inlet, whereby the at least one gas inlet receives at least a portion of the at least one stream of the compressed gas transmitted to the at least one conduit from the recycle relief device when the discharge pressure reaches a designated pressure. In a variation of this embodiment, the driver is a single shaft gas turbine and the compressor is a refrigerant compressor.

[0019] A fifth embodiment of the apparatus is similar to the fourth embodiment but includes at least one vessel in fluid communication with the at least one conduit and at least one gas inlet.

[0020] In a sixth embodiment, an apparatus for regulating a single shaft gas turbine driving a refrigerant compressor having a gas inlet and a gas outlet, the gas inlet optionally being in fluid communication with at least one vessel, includes two elements. The first element is at least one recycle pressure relief valve in fluid communication with the gas outlet of the refrigerant compressor, each recycle pressure relief valve adapted to receive a separate stream of a compressed gas having a discharge pressure from the gas outlet of the refrigerant compressor. The second element is at least one conduit in fluid communication with the gas inlet and optionally with the at least one vessel, whereby the gas inlet, and optionally each vessel, receives at least a portion of the stream of the compressed gas transmitted to the at least one conduit from the recycle pressure relief valve when the discharge pressure reaches a designated pressure.

[0021] Another aspect of the invention is a baseload LNG plant using an apparatus as in any of the embodiments or variations thereof of the apparatus discussed herein.

[0022] A first embodiment of the method for regulating a driver driving a gas compressor having a gas inlet and a gas outlet, the driver having a maximum power, includes providing a recycle pressure relief device in fluid communication with the gas outlet, the recycle pressure relief device adapted to receive a stream of a compressed gas having a discharge pressure from the gas outlet. A designated pressure for the discharge pressure is established, a conduit in fluid communication with the gas inlet is provided, and at least a portion of the stream of the compressed gas is transmitted to the conduit from the recycle pressure relief device when the discharge pressure reaches the designated pressure.

[0023] There are several variations of the first embodiment of the method. In one variation, the driver is a gas turbine and at least a portion of the compressed gas is a refrigerant. In another variation, the driver is a single-shaft gas turbine and the compressor is a refrigerant compressor. In yet another variation, the recycle pressure relief device is a valve.

[0024] A second embodiment of the method is similar to the first embodiment of the method and further includes providing a vessel in fluid communication with the conduit and the gas inlet and transmitting at least a portion of the at least a portion of the stream of the compressed gas from the conduit to the vessel.

[0025] A third embodiment of the method is similar to the first embodiment of the method and further includes providing at least one additional recycle pressure relief device in fluid communication with the gas outlet, the additional recycle pressure relief device adapted to receive an additional stream of the compressed gas from the gas outlet. At least a portion of the additional stream of the compressed gas is transmitted to the conduit when the discharge pressure reaches the designated pressure. In a variation of the third embodiment of the method, the at least a portion of the stream of the compressed gas is transmitted to the conduit from the recycle pressure relief device when the driver reaches a first designated percentage of the maximum power, and at least a portion of the another stream of the compressed gas is transmitted to the conduit from the additional recycle pressure relief device when the driver reaches a second designated percentage of the maximum power.

[0026] A fourth embodiment is a method for regulating at least one driver driving at least one multi-stage gas compressor having a plurality of stages, a gas inlet for each stage, and a gas outlet for each stage. The method includes providing at least one recycle pressure relief device in fluid communication with each gas outlet, the recycle pressure relief device adapted to receive at least one stream of a compressed gas having a discharge pressure from the gas outlet. A designated pressure is established for the discharge pressure, at least one conduit is provided in fluid communication with at least one gas inlet, and at least a portion of the at least one stream of the compressed gas is transmitted to the at least one conduit from the recycle relief device when the discharge pressure reaches the designated pressure, whereby the at least one gas inlet receives at least part of the at least a portion of the at least one stream of the compressed gas. In a variation of the fourth embodiment of the method, the driver is a single-shaft gas turbine and the compressor is a refrigerant compressor.

[0027] A fifth embodiment of the method is similar to the fourth embodiment and includes providing a vessel in fluid communication with the at least one conduit and the gas inlet and transmitting at least a portion of the at least a portion of the stream of the compressed gas from the at least one conduit to the vessel.

[0028] A sixth embodiment is a method for regulating a single-shaft gas turbine driving a refrigerant compressor having a gas inlet and a gas outlet, the gas inlet optionally being in fluid communication with at least one vessel. The method includes providing at least one recycle pressure relief valve in fluid communication with the gas outlet of the refrigerant compressor, each recycle pressure relief valve adapted to receive a separate stream of a compressed gas having a discharge pressure from the gas outlet of the refrigerant compressor. A designated pressure is established for the discharge pressure and at least one conduit is provided in fluid communication with the gas inlet and optionally with the at least one vessel. At least a portion of the stream of the compressed gas is transmitted to the conduit from the recycle pressure relief valve when the discharge pressure reaches the designated pressure, whereby the gas inlet, and optionally each vessel, receives at least a portion of the stream of the compressed gas transmitted to the at least one conduit from the recycle pressure relief valve when the discharge pressure reaches the designated pressure.

Please replace the paragraphs deleted above with the new paragraphs [0014] to [0028] as indicated below.

[0014] Embodiments of the present invention relate to an apparatus and method for the operation of a refrigeration system wherein one or more refrigeration compressors are driven by a single-shaft gas turbine. The apparatus and method may be applied to the production of LNG.

[0015] A first embodiment of the invention is an apparatus for regulating a driver driving a gas compressor having a gas inlet and a gas outlet, wherein the driver has a maximum power, which apparatus comprises a recycle pressure relief device in fluid communication with the gas outlet, the recycle pressure relief device adapted to receive a stream of a compressed gas having a discharge pressure from the gas outlet, and a conduit in fluid communication with the gas inlet.

[0016] The gas inlet receives at least a portion of the stream of the compressed gas transmitted to the conduit from the recycle pressure relief device when the discharge pressure reaches a designated pressure. The driver is a gas turbine and at least a portion of the compressed gas is a refrigerant.

[0017] The apparatus also includes at least one additional recycle pressure relief device in fluid communication with the gas outlet, the additional recycle pressure relief device adapted to receive an additional stream of the compressed gas from the gas outlet.

[0018] The at least a portion of the stream of the compressed gas may be transmitted to the conduit from the recycle pressure relief device when the driver reaches a first designated percentage of the maximum power, and at least a portion of the additional stream of the compressed gas may be transmitted to the conduit from the additional recycle pressure relief device when the driver reaches a second designated percentage of the maximum power.

[0019] A second embodiment of the invention comprises a method for regulating a driver driving a gas compressor having a gas inlet and a gas outlet, the driver having a maximum power, which method comprises providing a recycle pressure relief device in fluid communication with the gas outlet, the recycle pressure relief device

adapted to receive a stream of a compressed gas having a discharge pressure from the gas outlet, establishing a designated pressure for the discharge pressure, providing a conduit in fluid communication with the gas inlet, and transmitting at least a portion of the stream of the compressed gas to the conduit from the recycle pressure relief device when the discharge pressure reaches the designated pressure.

[0020] The method also includes providing at least one additional recycle pressure relief device in fluid communication with the gas outlet, the additional recycle pressure relief device adapted to receive an additional stream of the compressed gas from the gas outlet and transmitting at least a portion of the additional stream of the compressed gas to the conduit when the discharge pressure reaches the designated pressure.

[0021] The at least a portion of the stream of the compressed gas is transmitted to the conduit from the recycle pressure relief device when the driver reaches a first designated percentage of the maximum power, and at least a portion of the additional stream of the compressed gas is transmitted to the conduit from the additional recycle pressure relief device when the driver reaches a second designated percentage of the maximum power.

[0022] A third embodiment of the invention relates to a gas compression system comprising a driver; a refrigerant compressor driven by the driver and having an inlet and an outlet; a relief pressure safety valve having an inlet in flow communication with the outlet of the compressor, an outlet, and a set point; and a recycle pressure safety valve having an inlet in flow communication with the outlet of the compressor, and an outlet in flow communication with the inlet of the compressor.

[0023] The recycle pressure safety valve has a set point that is lower than the set point of the relief pressure safety valve.

[0024] The gas compression system may further comprise an additional compressor driven by the driver and having an inlet and an outlet, wherein the inlet is adapted to receive gas from the outlet of the additional compressor; a relief pressure safety valve having an inlet in flow communication with the outlet of the additional compressor, an outlet, and a set point; and a recycle pressure safety valve having an inlet in flow communication with the outlet of the additional compressor, and an outlet in flow communication with the inlet of the additional compressor.

[0025] The recycle pressure safety valve has a set point that is lower than the set point of the relief pressure safety valve.

[0026] The gas compression system may further comprise an additional recycle pressure safety valve having an inlet in flow communication with the outlet of the compressor, an outlet in flow communication with the inlet of the compressor, and a set point that is lower than the set point of the relief pressure safety valve, wherein the driver is a gas turbine having a maximum power.

[0027] The recycle pressure safety valve is adapted to open when the gas turbine reaches a first percentage of its maximum power, and the additional recycle pressure safety valve is adapted to open when the gas turbine reaches a second percentage of its maximum power that is greater than the first percentage of its maximum power.

[0028] A fourth embodiment of the invention includes a method of operating a refrigerant compressor driven by a single-shaft gas turbine comprising

(a) providing a compression system including

(1) a refrigerant compressor and a single-shaft gas turbine adapted to drive the refrigerant compressor, wherein the refrigerant compressor has an inlet and a discharge line leading to a compressor outlet;

(2) a relief pressure safety valve having an inlet in flow communication with the discharge line of the refrigerant compressor an outlet, and a set point; and

(3) a recycle pressure safety valve having an inlet in flow communication with the discharge line of the refrigerant compressor, an outlet in flow communication with the inlet of the refrigerant compressor, and a set point that is lower than the set point of the relief pressure safety valve;

(b) blocking the compressor outlet;

(c) causing the recycle pressure safety valve to open and allowing compressed gas to flow to the inlet of the refrigerant compressor, thereby increasing the throughput of the refrigerant compressor, consuming all available power of the gas turbine, and causing the gas turbine to slow down; and

(d) causing the gas turbine to trip on low speed.